

**AMENDMENTS TO THE SPECIFICATION:**

*Please amend the caption on page 4, line 22, as follows:*

**BRIEF SUMMARY OF THE INVENTION**

*Please amend the paragraph beginning on page 4, line 23, and continuing to page 6, line 8, as follows:*

The ~~An~~ object of the present invention ~~technology~~ is to reduce or eliminate the problems outlined above. This object and others are obtained by providing a method and apparatus for exchanging user-specific data from a mobile network to a service application of an external service provider, wherein certain user data is needed by the application for providing a requested service to a mobile user. A unique Application User Identification (AUID) code is generated and assigned to a combination of the mobile user and the application. The assigned AUID code is then sent to the application. A request for the needed user data is received from the application together with an AUID code. It is then determined whether the application is allowed to retrieve the requested user data. If so, the requested user data is retrieved based on the received AUID code, and is sent to the application. On the other hand, an error message may be sent if it is determined that the application is not allowed to retrieve the requested user data.

*Please amend the paragraph beginning on page 6, line 12, and continuing to page 6, line 15, as follows:*

Fig. 5 is a flow chart illustrating the steps ~~example acts~~ executed in a method for exchanging user data according to one ~~example mode~~ ~~aspect of the invention~~.

*Please amend the paragraph beginning on page 6, line 17, and continuing to page 6, line 27, as follows:*

A simplified communication scenario is illustrated in Fig. 1, where user data can be exchanged according to the present invention to a service application of an external provider. A mobile terminal 100 operated by a mobile user is connected to a base station 102 of a mobile network 104 by means of a radio air interface. The mobile network 104 uses standardised communication protocols, such as any of those defined for GSM, TDMA, GPRS, UMTS, etc, for transmission of speech and data over the air interface as well as within the network. TCP/IP is also commonly used within mobile networks.

*Please amend the paragraph beginning on page 8, line 27, and continuing to page 9, line 3, as follows:*

The data control server 114 then generates a unique Application User Identification (AUID) code representing the combination of a specific user and a specific service application corresponding to the requested service. The AUID code is stored together with a mobile user identity such as an MSISDN (Mobile Subscriber ISDN number) used in GSM networks, and an application identity such as a name. In practice, an identity code of either a user subscription or a physical terminal may be used as the mobile user identity.

*Please amend the paragraph beginning on page 12, line 19, and continuing to page 13, line 3, as follows:*

Fig's 3 and 4 Fig. 3 and Fig. 4 illustrate signalling diagrams for exemplary communication procedures using the present invention technology. These will now be

described with further reference to Fig. 2. It should be noted that some or all messages to and from the data control server 114 may in practice be transmitted over a service portal or the like of the mobile network 104, such as the gateway 106 in Fig. 1.

*Please amend the paragraph beginning on page 13, line 4, and continuing to page 13, line 16, as follows:*

In Fig. 3, a mobile terminal 100 accesses a service application 108A1 for the first time. In a first ~~step~~act 300, the terminal 100 sends a service request SR to the mobile network which is forwarded to the data control server 114 and received in the mobile network interface 200 residing therein. The logic unit 204 identifies the mobile user and the application 108A1 corresponding to the received service request. It is then recognised by the translator 208 that no AUID exists for this particular user/application combination, by checking the translation table 212. The AUID code generator 206 is then ordered to generate a new AUID code, which is assigned to this user/application combination and stored in the translation table 212.

*Please amend the paragraph beginning on page 13, line 17, and continuing to page 14, line 3, as follows:*

Next in a ~~step~~act 302, the service request is sent with the AUID code to the application 108A1. The application 108A1 then determines in this case that specific user data is needed to provide the requested service, and therefore sends a user data request UDR and the AUID code to the data control server 114 in a ~~step~~act 304, which are received in the external provider interface 202 of the server 114. It is then checked in the permission table 210 whether the application 108A1 is allowed to receive the requested user data. If so, the requested user data is retrieved from the user database 112 and the user data UD is sent to the application 108A1 in a step 306. If the application 108A1 is

not allowed to receive the requested user data, or if the application 108A1 is not registered at all, an appropriate error message E may be sent in an alternative step-act 308, or no response is sent at all. Finally, if the application 108A1 has received the user data, it can execute the requested service as indicated in a step-act 310, e.g. by sending payload data to the mobile terminal 100.

*Please amend the paragraph beginning on page 14, line 4, and continuing to page 14, line 19, as follows:*

In Fig. 4, a mobile terminal 100 accesses the service application 108A1 again at a later occasion by sending a new service request SR in a first step-act 400, which is received in the data control server 114. The logic unit 204 then identifies the mobile user and the application 108A1 as in the example above, and the previously assigned AUID code is retrieved from the translation table 212 by the translator 208. In a next step-act 402, the service request SR and the AUID code are sent to the application 108A1. It is then possible for the application 108A1 to attribute the previously received user data to the service, if it has been locally stored. If no further user data is needed, the application 108A1 can execute the requested service as indicated in a step-act 404. If more data is needed, such as a current location or a prepaid account status, the steps-acts 304-310 in Fig. 3 may be executed again, as described above.

*Please amend the paragraph beginning on page 14, line 24, and continuing to page 15, line 6, as follows:*

Fig. 5 is a flow chart illustrating the procedure executed in the data control server 114 when a user data request is received from a service application of an external provider. The user data request is received together with an AUID code in a first step-act 500, corresponding to step-act 304 in Fig. 3. An authentication routine may optionally be

performed in connection with ~~step-act~~ 500. Next in a ~~step~~act 502, it is determined whether the application is allowed to retrieve the requested user data, by checking the permission table 210. If not, an error message is sent to the application in a ~~step~~as act 504, or alternatively, no response is given at all. If the request is granted, the received AUID code is translated into a mobile user identity in a ~~step~~by act 506, by checking the translation table 212.

*Please amend the paragraph beginning on page 15, line 7, and continuing to page 15, line 14, as follows:*

Next, it is determined in a ~~step~~by act 508 whether a valid mobile user identity was found in ~~step-act~~ 506 in order to check if the application is authorised. This check provides additional security since only an authorised application can know a valid AUID code. If not found, an error message is sent to the application in a ~~step~~act 510. Otherwise, the requested user data is retrieved from the user database 112 and is sent to the application in a final ~~step~~act 512.

*Please amend the paragraph beginning on page 15, line 15, and continuing to page 15, line 22, as follows:*

By using the described ~~invention~~technology, a simple and reliable procedure is obtained for exchanging user data to service applications of external providers, enabling efficient control and communication between a mobile network and the applications. Access to user data is controlled by a single component, the data control server 114, which thus may act as a firewall. Hence, sensitive user information can be protected from unauthorised access.

*Please amend the paragraph beginning on page 15, line 23, and continuing to page 15, line 31, as follows:*

By using the unique AUID codes in service requests according to the present invention technology, an unauthorised application cannot impersonate an authorised application to fraudulently obtain user data. Also, users are automatically authenticated towards the applications by the AUID codes and no exchange of usernames and passwords is necessary between users and applications. Therefore, applications designed to be accessed over the Internet can easily be adapted for access via a data control server 114 as described above.

*Please amend the paragraph beginning on page 16, line 7, and continuing to page 16, line 21, as follows:*

In practice, the invention technology is preferably implemented as software code means in a computer program product adapted to cause a data control server 114 to perform the inventive method, such as the above-described processes. It should be noted that the functional units 200-212 in Fig. 2 are merely logically represented and may be implemented as software in one or more processors or the like anywhere in the server 114. In an alternative embodiment, the logic unit 204 may for example be integrated with the interfaces 200, 202. In another embodiment, the logic unit 204, the AUID code generator 206 and the translator 208 may be integrated into a single functional unit. Furthermore, the permission table 210 and the translation table 212 may be stored in a memory within or outside the data control server 114..